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## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of

Kazuhiko Hayashi

Serial No. 09/853,622

Group Art Unit 2652

Filed May 14, 2001

Examiner C. Renner

For MAGNETORESISTIVE EFFECT SENSOR, METHOD FOR  
MANUFACTURING A MAGNETORESISTIVE EFFECT SENSOR,  
MAGNETORESISTIVE DETECTION SYSTEM, AND  
MAGNETORESISTIVE RECORDING SYSTEM

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

DECLARATION UNDER 37 C.F.R. §1.132  
OF  
KAZUHIKO HAYASHI

Sir:

KAZUHIKO HAYASHI declares as follows:

1. I am co-inventor of U.S. Patent No. 6,490,139 to Hayashi et al. ("Hayashi '139").
2. With respect to Hayashi '139, I am the sole inventor of any relationship disclosed therein between the smoothness of the lower shield layer and the materials, as disclosed therein, used to form the lower shield layer.
3. I am the sole inventor of the invention disclosed in the above captioned application, and in particular of achieving a reduction in the surface roughness of a

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barrier layer by smoothing the lower shield layer, and of smoothing the lower shield layer by making the lower shield layer of amorphous material or microcrystalline material.

4. I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the above referenced application and any patent issuing thereon.

Date: 12th, Oct., 2004

*Kazuhiko Hayashi*  
KAZUHIKO HAYASHI